REMARKS

Claims 4-7, 9-17 and 19-26 are pending in this application. By this Amendment, claims 1-3, 8 and 18 are cancelled without prejudice to or disclaimer of the subject matter contained therein. Claims 4-6, 12, 15, 16, 19-21 and 24-26 are amended. The specification is also amended. No new matter has been added.

Claims 4 and 26 are amended into independent format. Claims 5, 6, 15, 16, 19, 21, 24, and 25 are amended to change their dependencies. Claim 12 is amended to correct a minor typographical error. Claim 20 is amended to eliminate redundant subject matter of its base claim. The specification is amended to correct minor informalities.

An Information Disclosure Statement with Form PTO-1449 was filed in the above-identified patent application on December 10, 2001. Applicants have not yet received from the Examiner a copy of the Form PTO-1449 initialed to acknowledge the fact that the Examiner has considered the disclosed information. The Examiner is requested to initial and return to the undersigned a copy of the Form PTO-1449. For the convenience of the Examiner, a copy of that form is attached, as well as a stamped receipt showing the receipt of the Form PTO-1449 in the U.S. Patent and Trademark Office on December 10, 2001.

For the following reasons, reconsideration is respectfully requested.

I. Formal Matters

On page 2, item 1 of the Office Action, the specification is objected to for minor informalities. The specification is amended to correct the typographical errors. Withdrawal of the objection is respectfully requested.

II. Reply to Rejections

On page 2, item 3 of the Office Action, claims 1-3, 5-8 and 24-26 are rejected under 35 U.S.C. §102(b) over U.S. Patent No. 6,371,339 to White et al. (hereinafter "White").

Firstly, White is not a §102(b) reference. White has a patent date of April 16, 2002. The application has a U.S. filing date of December 20, 2001 which claims priority to applications filed on December 13, 2000 and January 9, 2001 in Japan. These dates for the application are all prior to the patent date of April 16, 2002 for White.

Additionally, the rejection of cancelled claims 1-3 and 8 are moot. Claims 5-7 and 24-25 now depend from claim 4. Claim 4, which is not rejected by this rejection, is patentable over White. Consequently, claims 5-7, and 24-25 which depend from claim 4 are likewise patentable over the applied reference for at least the reasons stated above and for the additional features they recite.

Further, White fails to disclose a highly viscous fluid applying apparatus comprising a pump control device that includes a reverse-operating portion operable to operate the pump by a predetermined amount in a reverse direction opposite to a forward direction after termination of an operation of the pump in the forward direction to feed the highly viscous fluid to the delivery nozzle, as recited in claim 26.

Although the Office Action asserts that col. 8, lines 51-61 of White shows the feature, White does not, and merely discloses a controller 150 that controls a pump drive device in the form of a motor 40 to start and stop, but fails to disclose or suggest that the controller 150 includes a reverse operating portion.

Therefore, claims 26 is also patentable over White.

Withdrawal of the rejection of claims 1-3, 5-8, and 24-26 is respectfully requested.

On page 4, item 4 of the Office Action, claims 1-19 and 21-26 are rejected under 35 U.S.C. §102(b) over PCT/JP99/01611 to Chikahisa (hereinafter "Chikahisa"). The rejection of cancelled claims 1-3, 8 and 18 is moot. The rejection of claims 4-7, 9-17, 19 and 21-26 is traversed.

Applicants respectfully submit that Chikahisa fails to disclose a highly viscous fluid applying apparatus comprising a pump controlled device that controls the pump drive device such that the pump housing is rotated about the screw, by the pump drive device, to deliver the highly viscous fluid from the delivery nozzle, while the screw is held stationary, as recited in claim 4.

Chikahisa shows adhesive applying apparatus 101 (Fig. 12), which is controlled by a control device 301 (Figs. 1 and 13) according to a control routine illustrated in a flowchart of Fig. 16, which includes steps S1 through S11, as described generally on page 34, lines 5-15, and specifically on pages 35-42. Step S5 of Chikahisa discloses discharge shaft rotating device 2131 which is driven to rotate discharge shaft 2121 for rotating screw 2122 (Figs. 1, 2; page 18, lines 17-18), relative to pump housing in the form of adhesive application member 2111 to deliver adhesive to 251 from nozzle 2101 (Fig. 2; page 17, line 6-8).

Chikahisa is silent as to whether the discharge shaft 2121 is driven while the pump housing 2111 is held stationary (page 38). However, Chikahisa clearly discloses that the rotation of the discharge shaft 2121 (screw 2121) to deliver the adhesive is affected while the pump housing 2111 is held stationary (steps S2 and S3; page 34, lines 24 - page 36, line 5). That is, the pump housing 2111 is rotated in step S3 if the rotation is found necessary in step S2, "for preventing the nozzle stopper 2114 from interfering with the wiring pattern on the circuit board 250 as mentioned earlier, or for applying the adhesive 251 at more points, i.e., the multi point application" (page 34, line 24 - page 35, line 3). Further, Chikahisa discloses that the discharge shaft 2121 is also rotated when the adhesive application member 2111 (pump housing) is rotated by the angle in step S3, so that possible leakage of the adhesive from the nozzle 2101 during rotation of the pump housing is prevented (page 43, lines 20-24).

As Chikahisa discloses in step S5 to rotate the discharge shaft 2121 after step S3 to rotate the pump housing 2111, Chikahisa clearly teaches that the control device 301 operates

the pump drive device in the form of discharge shaft rotating device 2131 to rotate the screw 2122 to deliver the fluid while the pump housing 2111 is held stationary. Consequently, this is directly counter to claim 4 where the control device operates the pump drive device to rotate the pump housing to deliver the fluid while the screw is held stationary.

Therefore, claim 4 is patentable over Chikahisa.

Claims 6, 7, 9-17 and 19-25, which depend from claim 4, are likewise patentable over the applied reference for at least the reasons discussed above and for the additional features they recite. For example, Chikahisa fails to disclose the features of claim 9 that the screw is fixed to a supply portion of the container and the features of claim 11 that the machine frame, the container, and the pump housing are constructed such that the screw of the screw pump is fitted into the pump housing when the container is mounted on the machine frame.

Regarding claim 26, Chikahisa fails to disclose a highly viscous fluid applying apparatus comprising a pump control device that includes a reverse operating portion operable to operate the pump by a predetermined amount in a reverse direction opposite to a forward direction after termination of an operation of the pump in the forward direction to feed the highly viscous fluid to the delivery nozzle, as recited in claim 26.

Chikahisa discloses in the passages asserted by the Examiner, the operation in step S3 which is discussed above. Specifically, Chikahisa discloses the rotation of the discharge shaft 2121 to prevent leaking of the adhesive 251 from the nozzle 2101 when the pump housing 2111 is rotated (page 43, lines 20-24), for preventing the nozzle stopper 2114 from interfering with the wiring pattern on the circuit board 250 as mentioned earlier, or for applying the adhesive 251 at more points, i.e., the mulit-point application.

Chikahisa further describes an alternative arrangement to prevent leakage of the adhesive due to rotation of the pump housing 2111 in step S3, the application head unit 202 shown in Fig. 21. The alternative arrangement describes a connection shutting device 2021

which is provided to disconnect output shaft 2132 and rotation connection shaft 2134 to enable the discharge shaft 2121 to rotate freely, so that the discharge shaft 2121 is rotated with the pump housing 2111, "owing to the viscosity of the adhesive 251 present at the screw portion 2122 when the pump housing is rotated. Consequently, Chikahisa fails to disclose a reverse operating portion, as recited in claim 26 and claim 26 is patentable over Chikahisa.

On page 9, item 6 of the Office Action, claim 20 is rejected under 35 U.S.C. §103(a) over Chikahisa in view of U.S. Patent No. 2,976,392 to Wabnitz. The rejection is respectfully traversed.

As discussed above, Chikahisa fails to disclose the features of claim 4, from which claim 20 depends. Wabnitz fails to overcome the deficiencies in Chikahisa. Consequently, claim 20 is patentable over the applied references on the basis of its dependence from claim 4, and for the additional features it recites. Withdrawal of the rejection of claim 20 is respectfully requested.

III. Conclusion

For the foregoing reasons, Applicants submit that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 4-7, 9-17 and 19-26 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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JAO:SSK/tbh

Attachments:
Form PTO-1449
Stamped Receipt

Date: October 17, 2003

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